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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,477	07/14/2005	Thierry Aubert	FR-AM 1885 NP	7524
31684	7590	09/21/2006	EXAMINER	
ARKEMA INC. PATENT DEPARTMENT - 26TH FLOOR 2000 MARKET STREET PHILADELPHIA, PA 19103-3222			CHOI, FRANK I	
			ART UNIT	PAPER NUMBER
			1616	

DATE MAILED: 09/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

TV

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/525,477	AUBERT ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Frank I. Choi	1616	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 June 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102/103***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3, 4, 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Remy (US Pat. 2,045,925).

Remy expressly discloses a method of killing insects infesting stored grains with an atomized fog containing 5% ethyl mercaptan dissolved in a kerosene distillate and a method of killing household flies and insects with a fly spray prepared by dissolving .2% of ethyl disulfide in a carrier liquid consisting of kerosene distillate containing 1% phenols (Column 2 of Page 2, lines 5-20).

Claims 1-7 are rejected under 35 U.S.C. 103(b) as obvious over Remy (US Pat. 2,045,925) in view of Auger et al.

Remy discloses that disulfides are toxic to insect life and that although it is feasible to use the same in a pure form and applying them as sprays or in a finely divided form, the vapor pressures of these compounds are usually so high as to result in rapid vaporization of the compounds which can result in inadequate concentration of the sulfur compound contacting the

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insect (Column 1, lines 21-27, Column 2, lines 32). Remy discloses a method of killing insects infesting stored grains with an atomized fog containing 5% ethyl mercaptan dissolved in a kerosene distillate and a method of killing household flies and insects with a fly spray prepared by dissolving .2% of ethyl disulfide in a carrier liquid consisting of kerosene distillate containing 1% phenols (Column 2 of Page 2, lines 5-20).

Auger et al. discloses a method of fumigating a chamber or structure with methyl disulphide (Pg. 201, Table 1).

The prior art discloses methods of killing insects, including insects infesting stored grains, with an atomized fog containing volatile sulfur compounds. The difference between the prior art and the claimed invention is that the prior art does not expressly disclose dialkyl sulfur compounds of formula (I) where the alkyl is methyl, propyl, allyl or 1-propenyl radicals which are applied by nebulization. However, the prior art amply suggests the same as the prior art discloses the disulfide are effective insecticides for treatment of chambers, structures and stored food stuff and methods of application of the disulphides by atomized fog or spray, including ethyl disulphide. As such, one of ordinary skill in the art would have been motivated to apply the volatile sulfur compounds, such as dimethyl disulfide, by atomized fog or spray with the expectation that the same would be effective in killing insects.

The examiner has duly considered Applicant's arguments but deems them unpersuasive.

Contrary to Applicant's arguments, while fumigation in a gaseous state is a method of applying volatile insecticides such as thiosulfinates, the combined teachings of the prior art suggest that fumigation in a gaseous state is not the only method by which volatile sulfur compounds can be applied as insecticides. The combined teachings of the prior art disclose or suggest application as a spray or atomized fog. The Specification does not define the limitation

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“nebulization” other than to indicate in example 3 “sprayings by means of a nebulizer”

(Specification, paragraph 0046) and comparative tests in which the organic sulfur compound was applied as a liquid by syringe on to grain and allowed to volatilize (Specification, paragraphs 0020-0035). As such, “nebulization” would appear to encompass an atomized fog or spraying as disclosed by the prior art above.

Therefore, the claimed invention, as a whole, would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, because every element of the invention has been collectively taught by the combined teachings of the references.

#### ***Terminal Disclaimer***

The terminal disclaimer filed on 6/14/2006 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application No. 10/472,083 has been reviewed and is accepted. The terminal disclaimer has been recorded.

#### ***Conclusion***

A facsimile center has been established in Technology Center 1600. The hours of operation are Monday through Friday, 8:45 AM to 4:45 PM. The telecopier number for accessing the facsimile machine is 571-273-8300.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Frank Choi whose telephone number is (571)272-0610. Examiner maintains a compressed schedule and may be reached Monday, Tuesday, Thursday, Friday, 6:00 am – 4:30 pm (EST).

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner’s Supervisor, Dr. Johann Richter, can be reached at (571)272-0646. Additionally, Technology Center 1600’s Receptionist and Customer Service can be reached at (571) 272-1600.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Frank Choi  
Patent Examiner  
Technology Center 1600  
September 7, 2006

  
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